CLAIMS

What is claimed is:

1. A network switch comprising:

a first media access controller (MAC) coupled to a plurality of ports;

a transmitter coupled to the first MAC; and

packet queuing control (PQC) coupled to the receiver, wherein the PQC includes:

a main queue for storing information corresponding to one or more data packets to be transmitted from the network switch as unicast transactions; and

a broadcast queue, for storing information corresponding to one or more data packets to be transmitted from the network switch as broadcast transactions.

2. The network switch of claim 1 wherein the broadcast queue comprises a plurality of port queues, wherein each of the plurality of port queues corresponds to one of the plurality of ports.

3. The network switch of claim 2 wherein the plurality of port queues comprise:

a first port queue for storing information corresponding to one or more data packets to be transmitted from a first of the plurality of ports; and

a second port queue for storing information corresponding to one or more data packets to be transmitted from a second of the plurality of ports.

4. The network switch of claim 2 wherein the information stored in the main queue and the broadcast queue includes a port number from which a data packet stored in a corresponding memory location is to be transmitted.

5. The network switch of claim 4 wherein the information stored in the main queue and the broadcast queue further includes a pointer to the next queue location from which a data packet stored in a corresponding memory location is to be transmitted.

6. The network switch of claim 5 wherein pointers to a next queue are stored in the main queue for unicast transactions and stored in the plurality of broadcast port queues for broadcast transactions.

7. The network switch of claim 1 further comprising:

address resolution logic (ARL) coupled to the PQC;

a receiver coupled to the ARL; and

a second MAC coupled to the receiver.

8. A packet queuing control (PQC) comprising:

a main queue for storing information corresponding to one or more data packets to be transmitted from a network switch as unicast transactions; and

a broadcast queue, for storing information corresponding to one or more data packets to be transmitted from a network switch as broadcast transactions.

9. The network switch of claim 8 wherein the broadcast queue comprises a plurality of port queues, wherein each of the plurality of port queues corresponds to one of the plurality of ports.

10. The network switch of claim 9 wherein the plurality of port queues comprise:

a first port queue for storing information corresponding to one or more data packets to be transmitted from a first of the plurality of ports; and

a second port queue for storing information corresponding to one or more data packets to be transmitted from a second of the plurality of ports.

11. The network switch of claim 9 wherein the information stored in the main queue and the broadcast queue includes a port number from which a data packet stored in a corresponding memory location is to be transmitted.

12. The network switch of claim 11 wherein the information stored in the main queue and the broadcast queue further includes a pointer to the next queue location from which a data packet stored in a corresponding memory location is to be transmitted.

13. The network switch of claim 12 wherein pointers to a next queue are stored in the main queue for unicast transactions and stored in the plurality of broadcast port queues for broadcast transactions.

14. A method comprising:

receiving a first data packet at a first input port coupled to a network switch;

determining whether the first data packet is to be transmitted from the network switch as a unicast transaction; and

if so, storing a pointer in a main queue corresponding to the next location in the main queue corresponding to a memory location from which data is to be transmitted from the network switch;

otherwise, storing a plurality of pointers in a broadcast queue corresponding to the next location in the main queue corresponding to a memory location from which data is to be transmitted from the network switch.

15. The method of claim 14 wherein the process of storing a plurality of transaction pointers corresponding to the first memory location in a broadcast queue comprises:

storing the pointer in a first port queue in the broadcast queue, wherein the first port queue corresponds to a first output port coupled to the network switch; and

storing the pointer in a second port queue in the broadcast queue, wherein the second port queue corresponds to a second output port coupled to the network switch.

16. The method of claim 15 further comprising:

transmitting the first data packet from the network switch via the first output port; and

transmitting the first data packet from the network switch via the second output port.

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